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I. Descriptions of the Species of the Australian Lamellicorn Genus Cryptodus. By J. O. Westwood, Esq., F.L.S., &c.

[Read 7th January, 1856.]

THE interest always attached to anomalous forms will doubtless be considered a sufficient reason for my troubling the Society with the following descriptions of the species of the genus Cryptodus of Mac Leay, belonging to the Lamellicorn Coleoptera, and which has been well observed to be the most singular of all the Petalocerous groups, as may, indeed, be easily imagined from its having been arranged in the several families Trogidæ, Cetoniidæ and Dynastidæ, to which last-named group it appears to me unquestionably to belong, as I have endeavoured to prove in an article published in the fourth volume of the first series of our Transactions (p. 19). The genus was founded upon a single species significantly named Cr. parodoxus by Mac Leay; and in the memoir above referred to I added a second species, differing from the type in the number of the joints of its antennæ (C. Tasmannianus, op. cit. p. 21). Short descriptions were subsequently published by Dr. Germar of two more species; and I have now the pleasure to describe several additional species.

Section A. Antennæ 9-articulatæ. Ungues pedum anticorum in mare simplices, æquales. (Cryptodus stricte sic dictus.)

Sp. 1. Cryptodus paradoxus, Mac L.

"C. ater, punctis impressis, scaber, capite bituberculato, elytris inter strias elevatas punctis excavatis, cum aliis minutissimis ornatis." Mac. L.

Habitat in Australasia. Mus. D. Mac Leay.

The above is the whole of Mr. Mac Leay's description of this species, so that we are unable to determine satisfactorily whether it is identical with the following insect, with which, however, the peculiar punctation of the elytra, as described by Mac Leay, exactly corresponds.

Sp. 2. Cryptodus variolosus, White. (Pl. I. fig. 1.)

"C. convexus, fuscus, varioloso-punctatus, capite distinctius bituberculato, elytris obsolete tricostatis dense variolosopunctatis." Mas et fem. Burm.

Long. corp. lin. 8-9.

Habitat in Australia. Mus. Brit. Hope, Saunders, &c.

Cr. variolosus, White in Gray's Journ., ii. 460.

Cr. paradoxus? Westwood in Trans. Ent. Soc. ser. 1, vol. iv. p. 22, tab. 2, fig. 1 z.

Cr. paradoxus, Burmeister, Handb. d. Ent. v. 145.

The obscure brown colour of this insect seems to indicate it as specifically distinct from Mr. Mac Leay's species above noticed; the peculiar punctation of the elytra, namely, variolose dots, with very minute punctures interspersed, is a peculiar character of the insect before us, and agrees with Mac Leay's description. The short broad subdepressed form of the body, the large subquadrate head, the legs destitute of hairs, the 9-jointed antennæ with a large obconic basal joint, and the two spines at the base of the mentum, are also distinctive characters.

Sp. 3. Cryptodus piceus, Germ. (Pl. I. fig. 2.)

"C. mento basi emarginato, antennis 9-articulatis, piceus, thorace lateribus rotundato, confertim grosse punctato postice profunde canaliculato, elytris convexioribus, grosse punctatis, dorso subsulcatis." Germ.

Long. corp. lin. $7\frac{1}{2}$.

Habitat Adelaida, Novæ Hollandiæ.

Cryptodus piceus, Germ. in Linn. Ent. iii. p. 190.

The small rounded head, the very convex prothorax and elytra, and the chesnut colour, at once distinguish the insects which I have received from Adelaide, and regard as belonging to this species of Germar, from the preceding insect with which they agree in their 9-jointed antennæ, and in having the base of the mentum bituberculated ("mentum latum confertim punctatum, basi emarginatum," is Germar's description of this organ); the basal joint of the antennæ is gradually dilated to the apex, which has the outer angle rounded. The sides of the prothorax are rounded, but the base is considerably wider than the anterior part (contrary to the description of Germar-" basi et apice fere æqualiter angustatis.") The suture and three costæ on each elytron are slightly elevated, each being margined with a slight sulcation, in which is a row of punctures, the interstices being also subsulcated with rows of irregular punctures, nearly agreeing in size with those of the sulci at the sides of the costæ. This character disagrees with Germar's description-"elytrorum punctis grossis seriatim digestis, approximatis, interstitiis in dorso convexiusculis subtiliter et remote seriatim punctatis." Notwithstanding this disagreement, I consider my Adelaide specimens to be identical with Germar's C. piceus; but should future discoveries prove them to be distinct, the specific name C. convexicollis would well indicate the insect represented in Plate I. fig. 2.

One specimen received from Adelaide is about two-thirds of a line longer than that figured in Plate I.; it is also somewhat more glossy and convex, with stronger punctures on the prothorax and elytra; the latter with the three costæ on the elytra not so well defined; the abdomen beneath without impressed lines, and the sides of the prothorax narrowed from the middle to the hind angles, making this part of the body more rounded, and thus more nearly agreeing with Germar's description.

Section B. Antennæ 10-articulatæ. Ungues pedum anticorum in mare inæquales, uno intus bifido.

a. Prothorax antice haud tuberculo armatus. Elytra parum aut vix sulcata. (Subgenus, Cryptodinus, Westw)

Sp. 4. Cryptodus Tasmannianus, Westw. (Pl. I. fig. 3.) Subdepressus, niger, nitidus, punctatus, capite obsoletius bituberculato; elytris obsolete tricostatis sparsius variolosopunctatis, mento basi truncato, articulo basali antennarum angusto. Long. corp. lin. 9-10.

Habitat in Terra Van Diemenii. Mus. Westw. &c.

Cryptodus Tasmannianus, Westw. Trans. Ent. Soc. ser. 1, p. 21, pl. 2, fig. 1, and details; and Proc. Ent. Soc. 5 July, 1841; Burmeister, Handb. d. Ent. v. p. 144.

Cryptodus anthracinus, Erichson in Wiegmann, Arch. 1842, i. p. 161.

The brilliant jet black colour of this species is very characteristic of it. The accompanying figure represents a specimen of the ordinary size and form; there seems, however, to be considerable difference in these respects in different individuals. Thus Mr. Saunders possesses a specimen only nine and a half lines long, proportionably much narrower, and with the sulcus of the prothorax nearly effaced.

Sp. 5. Cryptodus politus, Westw. (Pl. I. fig. 4.)

C. niger, nitidus, castaneo parum tinctus; capite et prothorace punctatis, punctis minutis et in parte antica media prothoracis subobsoletis, hujus lateribus rotundatis; elytris tricostatis, punctis ovalibus variolosis inter costas notatis, pygidio punctis rotundis; corpore infra nitido tenuissime punctato, mento ad basin emarginato; antennis 10-articulatis, articulo basali angusto, ad apicem parum dilatato recte truncato.

Long. corp. lin. 13.

Habitat in Australia. In Musæo Hopeano, Oxoniæ.

This species, of which I have seen only a single individual, is considerably larger than any of the others described in this paper; from its general appearance it might, at first sight, be considered as a gigantic specimen of C. Tasmannianus, being, like it, very glossy and black, but with a slight tinge of chesnut. The head is widened in front of the eyes; it is transverse, finely punctured, with two tubercles on the crown. The antennæ are 10-jointed, the basal joint comparatively narrow, with the extremity extending beyond the insertion of the second joint, and slightly dilated at the tip, which is straightly truncated; the mentum is rounded in front; the disc elevated, its middle being very slightly depressed, marked with numerous fine transverse punctures, and its base emarginate. The prothorax has the sides rounded, the base being wider than the anterior part. The elytra are tricostate, the interstices marked with irregular rows of oval punctures, each surrounded with a delicate line. The anterior tarsi, in the unique specimen which I have examined, are short and thick, the

terminal joint produced into a point beneath the ungues, which are unequal in size, the larger one being much bent, and armed with a strong tooth near its base.

Sp. 6. Cryptodus Passaloides, Germ. (Pl. I. fig. 5.)

"C. mento basi emarginato, antennis distincte 10-articulatis, nigro-piceus, thorace acervatim grosse punctato, lateribus antrorsum angustato; elytris planis grosse punctatis, punctis in disco seriatis." Germar.

Long. corp. lin. 10.

Habitat in Australia, Adelaida, Wilson. Mus. Westwood. Cryptodus Passaloides, Germar, in Linn. Ent. iii. p. 189.

Differs from C. Tasmannianus in its narrower from and dark chesnut colour, in the more deeply punctured prothorax, and in the mentum being emarginate at the base. The following is Germar's detailed description of the species :- Caput longitudine parum latius, confertiin punctatum, vertice tuberculis duobus oblongis divaricatis, antice rotundatum, marginatum. piceæ, articulo 1mo trigono, funiculo 6-articulato clava triphylla. Mentum trapezoidale punctatum, basi profunde emarginatum. Thorax postice longitudine duplo latior, margine antico longitudine vix latior, lateribus a basi ad medium fere parallelis, a medio ad apicem rotundato-angustatis, tenuiter marginatis punctis magnis impressis pro parte raris remotis, pro parte magis acervatis obsitus, medio late sed obsolete canaliculatus. Prosternum antico productum, impressum, punctatum, apice subtruncatum. Elytra thorace ter longiora, deplanata, profunde punctata, punctis dorsi majoribus seriatis, linea circulari impressa signatis; laterum crebrioribus inordinatis. Corpus subtus magis piceum, minus dense punctatum.

The specimen represented in the accompanying figure was sent to me from Adelaide by C. W. Wilson, Esq.; it is of a rich glossy dark chesnut colour. The two tubercles on the crown of the head are slightly defined; the tarsi are simple; the basal joint of the antennæ is gradually widened from the base to the extremity, which is obliquely subtruncate; the mentum has the sides strongly deflexed, the middle of the disc very slightly depressed, and the base divided into two acute points, with a semi-circular incision between them. A specimen in the Hopean Collection, from Swan River, is somewhat larger and broader than my specimen, but otherwise agrees with it.

 b. (Sub-genus Cryptodellus, Westw.) Prothorax antice in medio tuberculo armatus. Elytra sulcis numerosis, interstitiis acute elevatis.

Sp. 7. Cryptodus (Cryptodellus) caviceps, Westw. (Plate I. fig. 6.)

C. obscure fusco-nigricans, punctatus, punctis luteo-setosis; capite magno semicirculari, margine acuto et recurvo, vertice bituberculato; prothoracis lateribus rotundatis, angulis posticis acutis, margine antico in medio 1-tuberculato, postice canaliculato, elytris multicostatis, mento postice acute appendiculato.

Long corp. lin. 8,

Habitat in Australia, Swan River. In Mus. Hop. Oxon.; et nostr.

This very distinct species is of an obscure brownish black colour, not shining, strongly punctate, the punctures oval, and each bearing a short luteous seta in the middle; the broad prothorax and narrow elytra give the insect a parallel appearance; the head is large and semi-circular, the disc flat, with two small but acute tubercles in the middle; the whole of the margin is sharp and turned upwards; the antennæ are 10-jointed, the basal joint is broad, with the inner apical angle rounded; the maxillæ have the outer lobe very bent and acute at the tip, with a strong acute tooth at its base; the inner lobe is small, obtuse at the tip, with two slight impressions indicating a trifid structure; the mentum is broad, the fore margin slightly emarginate in the middle, the anterior angles rounded, and the base produced into a long acute point, with the sides raised, extending over the jugulum, nearly to the point of the prosternum. The prothorax is wide, with the sides regularly rounded and slightly margined, the hinder angles acute, the base slightly sinuated within the angles; the fore margin with a tubercle in the middle; the disc covered with oval punctures, much larger than those of the head, and the middle of the hind part of the disc is canaliculated. The elytra are rather narrow, with the sides nearly straight, moderately convex, each with eleven rows of round punctures, with the edges not sharp, the row next the suture uniting with the second row near the middle of the elytra; the interstices between these rows of punctures are acutely ridged, each elytron having ten of these ridges or small costæ, the lateral ones being less distinct, and the top of each ridge is marked with a row of minute punctures, bearing short luteous setæ. The subapical tubercle is small, and

the apex of the elytra irregularly and obscurely punctured. The scutellum is semi-oval and scarcely punctured. The body beneath is opake, with a few minute setigerous punctures. The fore tarsi, in the few specimens I have examined, are simple. The prosternum is dilated at its anterior margin; its hind part is, however, in no manner prominent.

DESCRIPTION OF THE FIGURES.

PLATE I.

(See descriptions of the species for their natural size.)

- Fig. 1. Cryptodus variolosus (paradoxus?), magnified.

 1a, extremity of the abdomen; 1b, mentum.
 - 1a, extremity of the abdomen; 1b, mentum.
 2. Cryptodus piceus, magnified.
 2a, antenna; 2b, mentum, showing the tips of the labial palpi; 2c, ex
 - tremity of abdomen.
 3. Cryptodus Tasmannianus, magnified.
 - 4. Cryptodus politus, natural size.
 - 4a, antenna; 4b, mentum; 4c, last joint of anterior tarsus, and its ungues.
 - 5. Cryptodus Passaloides, magnified.
 - 5a, antenna; 3b, mentum seen from beneath; 3c, ditto, seen sideways.
 - 6. Cryptodus caviceps, magnified.
 - 6a, head seen from beneath; 6b, mandible; 6c, maxilla seen from above; 6d, maxilla seen obliquely; 6e, mentum seen sideways; 6f and g. antenna seen in different positions; 6h, extremity of elytra and abdomen seen sideways; 6i, extremity of abdomen seen from beneath the podex extending beyond the terminal ventral segment.